



Noble Energy, Inc

Weld County, CO (NAD 83)

Sec 12 - T6N - R63N (Wells Ranch USX AE07 Pad)

Wells Ranch USX AE07-66-1HN

Wellbore #1

Design: OH

Final Survey Report

22 July, 2013





IDS Final Survey Report



Company:	Noble Energy, Inc	Local Co-ordinate Reference:	Well Wells Ranch USX AE07-66-1HN
Project:	Weld County, CO (NAD 83)	TVD Reference:	WELL @ 4911.0usft (H&P 277)
Site:	Sec 12 - T6N - R63N (Wells Ranch USX AE07 Pad)	MD Reference:	WELL @ 4911.0usft (H&P 277)
Well:	Wells Ranch USX AE07-66-1HN	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project	Weld County, CO (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Sec 12 - T6N - R63N (Wells Ranch USX AE07 Pad)			
Site Position:		Northing:	1,429,076.39 usft	Latitude:	40° 30' 20.772 N
From:	Lat/Long	Easting:	3,312,782.42 usft	Longitude:	104° 22' 30.576 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.73 °

Well	Wells Ranch USX AE07-66-1HN					
Well Position	+N-S	0.0 usft	Northing:	1,429,076.39 usft	Latitude:	40° 30' 20.772 N
	+E-W	0.0 usft	Easting:	3,312,782.42 usft	Longitude:	104° 22' 30.576 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	4,887.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/31/2013	8.40	67.13	53,020

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)	
	0.0	0.0	0.0	131.00	

Survey Program	Date 7/22/2013				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
279.0	615.0	MSS (Wellbore #1)	EMS	EMS - Standard	
634.0	11,386.0	Drilltech MWD (Wellbore #1)	MWD+SAG	MWD + Sag correction	

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	
279.0	0.40	279.30	279.0	-1.0	-0.8	0.14	
615.0	0.00	144.70	615.0	-2.1	-1.8	0.12	
634.0	1.10	137.60	634.0	-2.0	-1.6	5.79	
First MWD @ 634' MD / 634' TVD							
726.0	1.20	121.60	726.0	-0.6	0.2	0.36	
820.0	1.30	124.70	820.0	1.1	2.2	0.13	
912.0	1.30	121.10	911.9	2.9	4.3	0.09	
1,004.0	1.40	123.60	1,003.9	4.7	6.4	0.13	
1,098.0	1.40	132.70	1,097.9	6.5	8.7	0.24	
1,284.0	1.50	129.10	1,283.8	10.1	13.4	0.07	



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Project:	Weld County, CO (NAD 83)	TVD Reference:	WELL @ 4911.0usft (H&P 277)
Site:	Sec 12 - T6N - R63N (Wells Ranch USX AE07 P2)	MD Reference:	WELL @ 4911.0usft (H&P 277)
Well:	Wells Ranch USX AE07-66-1HN	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
1,377.0	1.60	129.70	1,376.8	12.0	15.9	0.11	
1,470.0	3.20	178.30	1,469.7	13.1	19.0	2.64	
1,565.0	4.10	187.30	1,564.5	12.7	22.7	1.12	
1,660.0	4.30	188.80	1,659.3	11.8	26.5	0.24	
1,755.0	4.40	187.90	1,754.0	10.7	30.3	0.13	
1,850.0	4.30	191.20	1,848.7	9.5	34.1	0.28	
1,945.0	6.60	184.80	1,943.3	8.4	39.1	2.50	
2,041.0	7.00	166.80	2,038.6	9.3	47.1	2.25	
2,136.0	8.60	168.20	2,132.7	12.0	57.5	1.70	
2,231.0	9.80	167.90	2,226.5	15.2	69.6	1.26	
2,326.0	10.50	174.70	2,320.0	17.7	82.3	1.46	
2,421.0	11.90	176.10	2,413.2	19.1	95.5	1.50	
2,516.0	13.30	173.20	2,505.9	21.1	110.5	1.62	
2,612.0	12.80	170.30	2,599.4	24.2	126.9	0.86	
2,707.0	12.50	171.90	2,692.1	27.4	142.8	0.49	
2,802.0	12.00	171.50	2,785.0	30.3	158.1	0.53	
2,897.0	13.70	170.30	2,877.6	33.7	174.3	1.81	
2,993.0	13.90	168.50	2,970.8	37.9	192.3	0.49	
3,088.0	14.10	176.60	3,063.0	40.9	209.4	2.07	
3,183.0	14.20	177.20	3,155.1	42.1	225.6	0.19	
3,278.0	13.50	177.90	3,247.4	43.1	241.2	0.76	
3,373.0	13.50	179.10	3,339.7	43.7	256.2	0.29	
3,469.0	13.80	175.70	3,433.0	44.7	271.8	0.89	
3,564.0	12.10	173.70	3,525.6	46.6	287.2	1.85	
3,659.0	12.70	169.20	3,618.4	49.7	302.7	1.20	
3,754.0	15.90	170.50	3,710.4	53.8	321.0	3.39	
3,849.0	17.10	171.80	3,801.5	57.9	341.6	1.32	
3,944.0	18.10	171.70	3,892.1	62.1	363.3	1.05	
4,039.0	18.10	171.60	3,982.4	66.3	385.7	0.03	
4,134.0	16.30	171.20	4,073.1	70.5	407.1	1.90	
4,230.0	15.40	171.10	4,165.5	74.6	427.2	0.94	
4,325.0	15.10	171.80	4,257.1	78.3	446.2	0.37	
4,420.0	13.90	170.40	4,349.1	82.0	464.4	1.32	
4,515.0	14.10	180.80	4,441.3	83.7	480.7	2.65	
4,610.0	14.00	181.30	4,533.5	83.3	495.5	0.17	
4,706.0	13.30	179.30	4,626.7	83.2	510.2	0.88	
4,801.0	12.30	178.00	4,719.4	83.6	524.4	1.10	
4,896.0	14.20	172.40	4,811.8	85.5	540.0	2.41	
4,991.0	12.90	171.10	4,904.2	88.7	556.9	1.41	
5,086.0	14.90	179.80	4,996.4	90.4	573.1	3.04	
5,181.0	14.90	180.60	5,088.2	90.3	589.0	0.22	
5,276.0	13.60	179.00	5,180.3	90.4	604.4	1.43	
5,371.0	12.80	172.20	5,272.8	92.0	619.8	1.84	
5,467.0	13.50	173.30	5,366.3	94.8	636.1	0.77	
5,562.0	15.70	174.80	5,458.2	97.2	653.6	2.35	



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Site:	Sec 12 - T6N - R63N (Wells Ranch USX AE07 P2)	MD Reference:	WELL @ 4911.0usft (H&P 277)
Well:	Wells Ranch USX AE07-66-1HN	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey						
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
5,657.0	14.20	173.50	5,550.0	99.7	671.4	1.62
5,752.0	12.50	171.80	5,642.4	102.5	687.8	1.84
5,848.0	14.00	178.60	5,735.9	104.2	703.5	2.25
5,943.0	12.50	177.80	5,828.3	104.9	718.3	1.59
6,038.0	14.10	182.90	5,920.8	104.7	732.5	2.09
6,133.0	14.90	174.10	6,012.8	105.4	748.5	2.46
6,228.0	16.50	166.50	6,104.2	109.8	768.4	2.74
6,319.0	16.30	162.00	6,191.5	116.8	789.9	1.41
6,367.0	17.50	154.00	6,237.5	122.0	802.3	5.45
6,414.0	21.80	143.00	6,281.7	130.4	817.4	12.03
6,462.0	27.30	136.30	6,325.4	143.4	837.1	12.83
6,510.0	32.40	139.70	6,367.0	159.3	860.8	11.19
6,557.0	37.50	138.80	6,405.5	176.9	887.4	10.91
6,605.0	41.90	136.80	6,442.4	197.5	917.8	9.54
6,652.0	44.80	134.30	6,476.6	220.1	950.0	7.17
6,700.0	46.70	130.50	6,510.1	245.5	984.4	6.91
6,747.0	49.10	128.20	6,541.6	272.4	1,019.2	6.27
6,795.0	53.20	121.70	6,571.8	303.1	1,056.3	13.56
6,843.0	55.90	114.50	6,599.6	337.6	1,094.4	13.45
6,890.0	57.20	110.30	6,625.5	373.8	1,131.5	7.95
6,938.0	58.70	105.30	6,651.0	412.5	1,168.9	9.36
6,985.0	60.30	102.50	6,674.9	451.8	1,205.0	6.16
7,033.0	62.70	100.20	6,697.8	493.2	1,241.6	6.54
7,081.0	67.30	98.10	6,718.1	536.1	1,278.5	10.37
7,128.0	72.40	95.50	6,734.2	579.9	1,315.0	12.03
7,176.0	76.20	93.70	6,747.2	626.0	1,352.2	8.70
7,223.0	79.00	92.80	6,757.3	671.8	1,388.5	6.24
7,271.0	82.00	91.30	6,765.2	719.1	1,425.3	6.97
7,433.0	89.00	88.20	6,778.0	880.5	1,546.6	4.72
7,528.0	89.30	88.40	6,779.4	975.4	1,616.4	0.38
7,623.0	89.30	87.60	6,780.5	1,070.3	1,685.9	0.84
7,718.0	91.30	89.10	6,780.0	1,165.3	1,755.7	2.63
7,813.0	90.30	87.40	6,778.7	1,260.2	1,825.5	2.08
7,909.0	89.90	86.60	6,778.5	1,356.1	1,894.5	0.93
8,004.0	90.50	90.70	6,778.2	1,451.1	1,964.7	4.36
8,099.0	90.40	91.30	6,777.5	1,546.0	2,037.5	0.64
8,194.0	88.50	90.70	6,778.4	1,641.0	2,110.3	2.10
8,289.0	89.80	91.20	6,779.8	1,736.0	2,183.0	1.47
8,384.0	89.00	89.70	6,780.8	1,831.0	2,255.2	1.79
8,479.0	92.40	89.40	6,779.6	1,926.0	2,326.3	3.59
8,575.0	93.50	86.60	6,774.7	2,021.8	2,396.5	3.13
8,670.0	90.70	85.30	6,771.2	2,116.5	2,463.5	3.25
8,765.0	88.60	84.10	6,771.8	2,211.0	2,529.1	2.55
8,860.0	88.50	85.50	6,774.2	2,305.6	2,594.9	1.48



IDS Final Survey Report

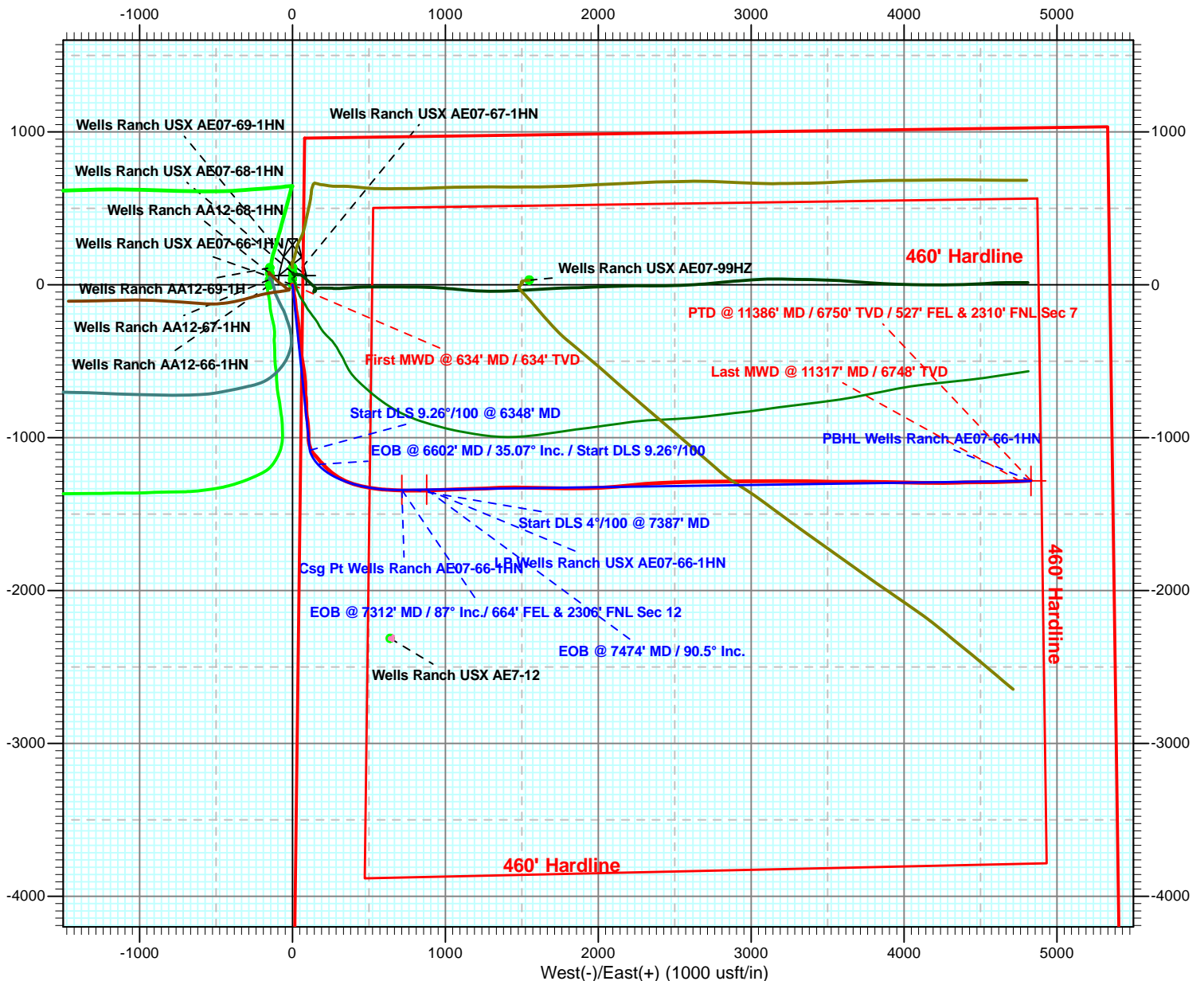


Company:	Noble Energy, Inc	Local Co-ordinate Reference:	Well Wells Ranch USX AE07-66-1HN
Project:	Weld County, CO (NAD 83)	TVD Reference:	WELL @ 4911.0usft (H&P 277)
Site:	Sec 12 - T6N - R63N (Wells Ranch USX AE07 P2)	MD Reference:	WELL @ 4911.0usft (H&P 277)
Well:	Wells Ranch USX AE07-66-1HN	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey						
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
8,956.0	87.90	86.90	6,777.2	2,401.4	2,663.0	1.59
9,051.0	90.70	87.60	6,778.3	2,496.2	2,731.6	3.04
9,146.0	90.00	88.30	6,777.8	2,591.2	2,801.0	1.04
9,241.0	91.20	90.40	6,776.8	2,686.1	2,872.0	2.55
9,336.0	91.30	89.30	6,774.7	2,781.1	2,943.5	1.16
9,432.0	91.70	88.70	6,772.2	2,877.1	3,014.8	0.75
9,527.0	91.40	89.90	6,769.6	2,972.0	3,085.7	1.30
9,622.0	89.30	90.30	6,769.0	3,067.0	3,157.5	2.25
9,717.0	88.50	89.90	6,770.9	3,162.0	3,229.3	0.94
9,812.0	89.30	89.20	6,772.7	3,257.0	3,300.5	1.12
9,908.0	93.00	91.30	6,770.8	3,352.9	3,373.2	4.43
10,003.0	93.60	91.20	6,765.3	3,447.8	3,446.1	0.64
10,098.0	92.90	90.60	6,759.9	3,542.6	3,518.6	0.97
10,193.0	93.30	90.10	6,754.8	3,637.4	3,590.6	0.67
10,289.0	93.30	89.40	6,749.2	3,733.3	3,662.7	0.73
10,384.0	92.60	90.60	6,744.3	3,828.2	3,734.3	1.46
10,479.0	92.70	91.90	6,740.0	3,923.0	3,807.2	1.37
10,574.0	91.10	91.70	6,736.8	4,017.9	3,880.8	1.70
10,669.0	89.30	90.60	6,736.5	4,112.9	3,953.7	2.22
10,764.0	87.90	89.60	6,738.8	4,207.9	4,025.5	1.81
10,860.0	87.00	88.40	6,743.1	4,303.8	4,096.8	1.56
10,955.0	88.60	89.90	6,746.7	4,398.7	4,167.5	2.31
11,050.0	90.00	89.20	6,747.9	4,493.7	4,238.7	1.65
11,145.0	91.80	89.10	6,746.4	4,588.6	4,309.4	1.90
11,240.0	88.90	88.00	6,745.8	4,683.6	4,379.5	3.26
11,317.0	88.30	86.90	6,747.7	4,760.5	4,435.3	1.63
Last MWD @ 11317' MD / 6748' TVD						
11,386.0	88.30	86.90	6,749.7	4,829.4	4,484.8	0.00
PTD @ 11386' MD / 6750' TVD / 527' FEL & 2310' FNL Sec 7						

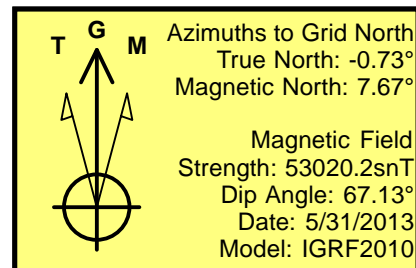
Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
634.0	634.0	0.2	-2.0	First MWD @ 634' MD / 634' TVD
11,317.0	6,747.7	-1,284.3	4,760.5	Last MWD @ 11317' MD / 6748' TVD
11,386.0	6,749.7	-1,280.5	4,829.4	PTD @ 11386' MD / 6750' TVD / 527' FEL & 2310' FNL Sec 7

Checked By: _____ Approved By: _____ Date: _____



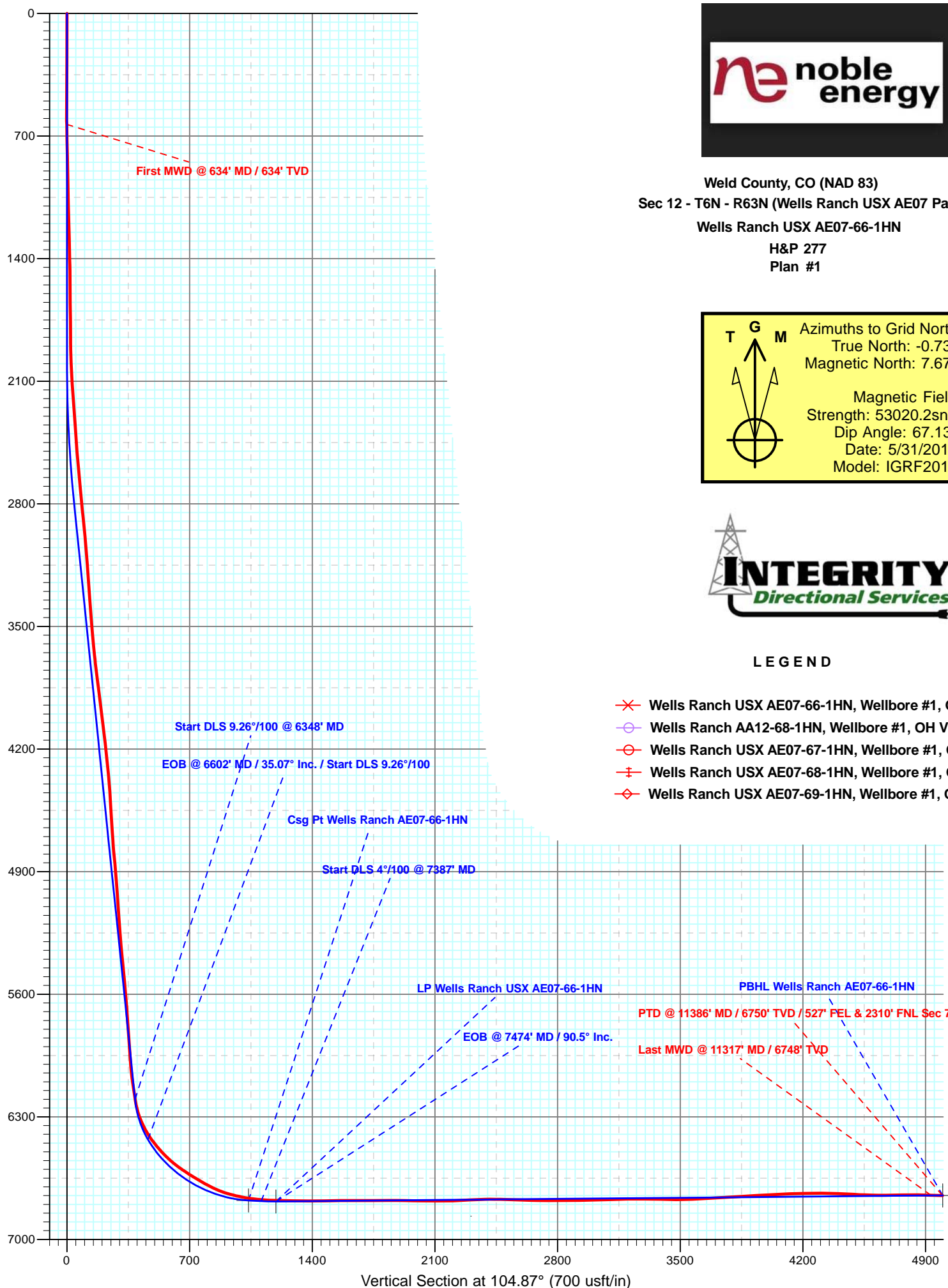


Weld County, CO (NAD 83)
 Sec 12 - T6N - R63N (Wells Ranch USX AE07 Pad)
 Wells Ranch USX AE07-66-1HN
 H&P 277
 Plan #1



LEGEND

- ✕ Wells Ranch USX AE07-66-1HN, Wellbore #1, OH V0
- Wells Ranch AA12-68-1HN, Wellbore #1, OH V0
- ⊖ Wells Ranch USX AE07-67-1HN, Wellbore #1, OH V0
- ⊕ Wells Ranch USX AE07-68-1HN, Wellbore #1, OH V0
- ◇ Wells Ranch USX AE07-69-1HN, Wellbore #1, OH V0





Job Number: CO13341NB
 Company: Noble Energy
 Lease/Well: USXAE07-66-1HN
 Location: Weld County
 Rig Name: H&P 277
 RKB: 4911
 G.L. or M.S.L.: 4887

State/Country: Colorado/USA
 Declination: 7.67
 Grid: Yes
 File name: C:\WINSERVE\C13341NB.SVY
 Date/Time: 23-Jul-13 / 10:31
 Curve Name: WELLS RANCH USX AE07-66-1HN

Integrity Directional Services

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 104.87
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Tied Into Gyro									
615.00	.00	144.70	615.00	.00	.00	.00	.00	.00	.00
First MWD Survey									
634.00	1.10	137.60	634.00	-.13	.12	.15	.18	137.60	5.79
726.00	1.20	121.60	725.98	-1.29	1.54	1.82	2.01	130.00	.36
820.00	1.30	124.70	819.96	-2.41	3.25	3.76	4.05	126.57	.13
912.00	1.30	121.10	911.93	-3.55	5.01	5.75	6.14	125.33	.09
1004.00	1.40	123.60	1003.91	-4.71	6.84	7.81	8.30	124.56	.13
1098.00	1.40	132.70	1097.88	-6.12	8.64	9.92	10.59	125.34	.24
1284.00	1.50	129.10	1283.82	-9.20	12.19	14.15	15.28	127.03	.07
1377.00	1.60	129.70	1376.79	-10.80	14.14	16.44	17.79	127.37	.11
1470.00	3.20	178.30	1469.71	-14.22	15.21	18.35	20.83	133.07	2.64
1565.00	4.10	187.30	1564.52	-20.24	14.86	19.56	25.11	143.71	1.12
1660.00	4.30	188.80	1659.26	-27.13	13.89	20.38	30.47	152.89	.24
1755.00	4.40	187.90	1753.99	-34.26	12.84	21.20	36.58	159.45	.13
1850.00	4.30	191.20	1848.72	-41.36	11.65	21.87	42.97	164.27	.28
1945.00	6.60	184.80	1943.28	-50.30	10.50	23.05	51.38	168.21	2.50
2040.00	7.00	166.80	2037.62	-61.37	11.36	26.73	62.42	169.51	2.27
2136.00	8.60	168.20	2132.73	-74.10	14.17	32.71	75.44	169.18	1.68
2231.00	9.80	167.90	2226.51	-88.95	17.31	39.56	90.62	168.99	1.26
2326.00	10.50	174.70	2320.02	-105.48	19.81	46.21	107.32	169.36	1.46
2421.00	11.90	176.10	2413.21	-123.87	21.27	52.35	125.68	170.25	1.50
2516.00	13.30	173.20	2505.92	-144.49	23.23	59.54	146.35	170.86	1.62

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
2612.00	12.80	170.30	2599.44	-165.94	26.33	68.04	168.02	170.98	.86
2707.00	12.50	171.90	2692.14	-186.49	29.56	76.43	188.82	170.99	.49
2802.00	12.00	171.50	2784.98	-206.44	32.46	84.35	208.98	171.06	.53
2897.00	13.70	170.30	2877.59	-227.30	35.82	92.95	230.10	171.04	1.81
2992.00	13.90	168.50	2969.85	-249.57	39.99	102.70	252.75	170.90	.50
3088.00	14.10	176.60	3063.01	-272.54	42.98	111.49	275.91	171.04	2.05
3183.00	14.20	177.20	3155.13	-295.73	44.24	118.65	299.02	171.49	.19
3278.00	13.50	177.90	3247.36	-318.45	45.21	125.42	321.65	171.92	.76
3373.00	13.50	179.10	3339.74	-340.62	45.79	131.67	343.69	172.34	.29
3468.00	13.80	175.70	3432.06	-363.01	46.82	138.41	366.01	172.65	.90
3563.00	12.10	173.70	3524.64	-384.20	48.76	145.72	387.29	172.77	1.85
3659.00	12.70	169.20	3618.40	-404.57	51.84	153.93	407.88	172.70	1.18
3754.00	15.90	170.50	3710.45	-427.67	55.95	163.83	431.31	172.55	3.39
3849.00	17.10	171.80	3801.53	-454.33	60.09	174.67	458.29	172.47	1.32
3944.00	18.10	171.70	3892.08	-482.76	64.21	185.95	487.01	172.42	1.05
4039.00	18.10	171.60	3982.38	-511.96	68.50	197.58	516.52	172.38	.03
4134.00	16.30	171.20	4073.13	-539.73	72.69	208.77	544.61	172.33	1.90
4230.00	15.40	171.10	4165.48	-565.64	76.72	219.31	570.82	172.28	.94
4325.00	15.10	171.80	4257.13	-590.35	80.44	229.25	595.81	172.24	.37
4420.00	13.90	170.40	4349.11	-613.85	84.11	238.82	619.59	172.20	1.32
4515.00	14.10	180.80	4441.30	-636.68	85.85	246.36	642.44	172.32	2.65
4610.00	14.00	181.30	4533.46	-659.73	85.43	251.87	665.24	172.62	.17
4706.00	13.30	179.30	4626.75	-682.39	85.30	257.56	687.70	172.87	.88
4801.00	12.30	178.00	4719.38	-703.43	85.79	263.43	708.64	173.05	1.10
4896.00	14.20	172.40	4811.86	-725.09	87.68	270.82	730.37	173.11	2.41
4991.00	12.90	171.10	4904.21	-747.12	90.86	279.55	752.62	173.07	1.41
5086.00	14.90	179.80	4996.43	-769.81	92.55	287.00	775.36	173.14	3.04
5181.00	14.90	180.60	5088.24	-794.24	92.46	293.19	799.60	173.36	.22
5276.00	13.60	179.00	5180.31	-817.62	92.53	299.25	822.84	173.54	1.43
5371.00	12.80	172.20	5272.81	-839.22	94.15	306.36	844.48	173.60	1.84
5467.00	13.50	173.30	5366.29	-860.88	96.90	314.58	866.32	173.58	.77
5562.00	15.70	174.80	5458.22	-884.70	99.36	323.07	890.26	173.59	2.35
5657.00	14.20	173.50	5550.00	-909.08	101.85	331.73	914.77	173.61	1.62
5752.00	12.50	171.80	5642.43	-930.83	104.63	340.00	936.70	173.59	1.84
5848.00	14.00	178.60	5735.88	-952.73	106.40	347.33	958.65	173.63	2.25
5943.00	12.50	177.80	5828.35	-974.49	107.07	353.57	980.35	173.73	1.59
6038.00	14.10	182.90	5920.80	-996.32	106.88	358.99	1002.04	173.88	2.09
6133.00	14.90	174.10	6012.78	-1020.03	107.55	365.72	1025.69	173.98	2.46
6228.00	16.50	166.50	6104.25	-1045.30	111.96	376.46	1051.28	173.89	2.74
6319.00	16.30	162.00	6191.55	-1070.01	118.92	389.53	1076.60	173.66	1.41
6367.00	17.50	154.00	6237.48	-1082.91	124.17	397.91	1090.01	173.46	5.45
6414.00	21.80	143.00	6281.75	-1096.24	132.52	409.41	1104.22	173.11	12.03
6462.00	27.30	136.30	6325.40	-1111.33	145.50	425.83	1120.82	172.54	12.83
6510.00	32.40	139.70	6367.02	-1129.11	161.44	445.79	1140.59	171.86	11.19
6557.00	37.50	138.80	6405.53	-1149.49	179.02	468.01	1163.35	171.15	10.91

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
6605.00	41.90	136.80	6442.46	-1172.18	199.62	493.75	1189.06	170.34	9.54
6652.00	44.80	134.30	6476.63	-1195.19	222.23	521.50	1215.68	169.47	7.17
6700.00	46.70	130.50	6510.13	-1218.36	247.62	551.99	1243.26	168.51	6.91
6747.00	49.10	128.20	6541.64	-1240.45	274.59	583.72	1270.48	167.52	6.27
6795.00	53.20	121.70	6571.76	-1261.79	305.23	618.81	1298.18	166.40	13.56
6843.00	55.90	114.50	6599.62	-1280.15	339.70	656.84	1324.45	165.14	13.45
6890.00	57.20	110.30	6625.54	-1295.08	375.94	695.71	1348.54	163.81	7.95
6938.00	58.70	105.30	6651.02	-1307.49	414.66	736.32	1371.67	162.40	9.36
6985.00	60.30	102.50	6674.88	-1317.21	453.97	776.80	1393.25	160.98	6.16
7033.00	62.70	100.20	6697.78	-1325.50	495.32	818.90	1415.03	159.51	6.54
7081.00	67.30	98.10	6718.06	-1332.41	538.26	862.17	1437.02	158.00	10.37
7128.00	72.40	95.50	6734.25	-1337.61	582.06	905.83	1458.76	156.48	12.03
7176.00	76.20	93.70	6747.24	-1341.31	628.11	951.29	1481.09	154.91	8.70
7223.00	79.00	92.80	6757.33	-1343.91	673.93	996.24	1503.42	153.37	6.24
7271.00	82.00	91.30	6765.25	-1345.60	721.24	1042.40	1526.70	151.81	6.97
7433.00	89.00	88.20	6777.96	-1344.87	882.61	1198.19	1608.63	146.72	4.72
7528.00	89.30	88.40	6779.37	-1342.06	977.56	1289.23	1660.34	143.93	.38
7623.00	89.30	87.60	6780.53	-1338.74	1072.50	1380.14	1715.37	141.30	.84
7718.00	91.30	89.10	6780.03	-1336.01	1167.45	1471.21	1774.22	138.85	2.63
7813.00	90.30	87.40	6778.70	-1333.11	1262.39	1562.22	1835.97	136.56	2.08
7909.00	89.90	86.60	6778.54	-1328.08	1358.26	1653.59	1899.65	134.36	.93
8004.00	90.50	90.70	6778.21	-1325.84	1453.21	1744.79	1967.15	132.38	4.36
8099.00	90.40	91.30	6777.46	-1327.50	1548.19	1837.02	2039.40	130.61	.64
8194.00	88.50	90.70	6778.37	-1329.16	1643.17	1929.24	2113.45	128.97	2.10
8289.00	89.80	91.20	6779.78	-1330.73	1738.14	2021.43	2189.06	127.44	1.47
8384.00	89.00	89.70	6780.78	-1331.48	1833.13	2113.43	2265.66	125.99	1.79
8479.00	92.40	89.40	6779.61	-1330.73	1928.11	2205.04	2342.74	124.61	3.59
8575.00	93.50	86.60	6774.67	-1327.39	2023.91	2296.77	2420.37	123.26	3.13
8670.00	90.70	85.30	6771.19	-1320.69	2118.60	2386.57	2496.53	121.94	3.25
8765.00	88.60	84.10	6771.77	-1311.91	2213.18	2475.74	2572.80	120.66	2.55
8860.00	88.50	85.50	6774.18	-1303.30	2307.76	2564.94	2650.35	119.46	1.48
8956.00	87.90	86.90	6777.19	-1296.94	2403.50	2655.84	2731.09	118.35	1.59
9051.00	90.70	87.60	6778.35	-1292.39	2498.37	2746.36	2812.85	117.35	3.04
9146.00	90.00	88.30	6777.77	-1288.99	2593.31	2837.25	2895.99	116.43	1.04
9241.00	91.20	90.40	6776.78	-1287.91	2688.29	2928.77	2980.87	115.60	2.55
9336.00	91.30	89.30	6774.71	-1287.66	2783.26	3020.50	3066.70	114.83	1.16
9432.00	91.70	88.70	6772.19	-1285.99	2879.22	3112.81	3153.36	114.07	.75
9527.00	91.40	89.90	6769.62	-1284.83	2974.17	3204.29	3239.83	113.36	1.30
9622.00	89.30	90.30	6769.04	-1284.99	3069.17	3296.14	3327.31	112.72	2.25
9717.00	88.50	89.90	6770.87	-1285.16	3164.15	3387.99	3415.18	112.11	.94
9812.00	89.30	89.20	6772.69	-1284.41	3259.12	3479.59	3503.09	111.51	1.12
9908.00	93.00	91.30	6770.76	-1284.83	3355.08	3572.44	3592.68	110.95	4.43
10003.00	93.60	91.20	6765.29	-1286.90	3449.90	3664.62	3682.11	110.46	.64
10098.00	92.90	90.60	6759.91	-1288.39	3544.74	3756.66	3771.62	109.97	.97
10193.00	93.30	90.10	6754.77	-1288.97	3639.60	3848.49	3861.10	109.50	.67

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E Distance FT	Direction Deg	Dogleg Severity Deg/100
10289.00	93.30	89.40	6749.24	-1288.55	3735.43	3941.01	3951.43	109.03	.73
10384.00	92.60	90.60	6744.36	-1288.55	3830.31	4032.71	4041.24	108.59	1.46
10479.00	92.70	91.90	6739.96	-1290.62	3925.18	4124.94	4131.92	108.20	1.37
10574.00	91.10	91.70	6736.81	-1293.60	4020.08	4217.42	4223.08	107.84	1.70
10669.00	89.30	90.60	6736.48	-1295.51	4115.05	4309.70	4314.16	107.48	2.22
10764.00	87.90	89.60	6738.80	-1295.68	4210.02	4401.53	4404.89	107.11	1.81
10860.00	87.00	88.40	6743.07	-1294.00	4305.91	4493.78	4496.14	106.73	1.56
10955.00	88.60	89.90	6746.72	-1292.60	4400.82	4585.16	4586.72	106.37	2.31
11050.00	90.00	89.20	6747.88	-1291.85	4495.81	4676.77	4677.73	106.03	1.65
11145.00	91.80	89.10	6746.39	-1290.44	4590.78	4768.20	4768.70	105.70	1.90
11240.00	88.90	88.00	6745.81	-1288.04	4685.74	4859.36	4859.55	105.37	3.26
Last MWD Survey									
11317.00	88.30	86.90	6747.69	-1284.61	4762.64	4932.81	4932.84	105.09	1.63
Straight Line Projection to TD									
11386.00	88.30	86.90	6749.74	-1280.88	4831.51	4998.41	4998.41	104.85	.00